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ABSTRACT

The paper presents an overview of the methods used in a class for autistic children (ages 4-11 years) and reports on a longitudinal case study of an autistic 11 year-old girl. Autistic characteristics, such as poor eye contact and insensitivity to pain, are outlined. The author explains that the program emphasized teaching basic communication skills, the internalization of behavior control, and appropriate social interaction. After an observation period, the author describes the intervention hierarchy, which ranges from "simple time-out" to "tantrum hold". The development of an individualized program and contingency management is explored. The steps in the language program are presented and the involvement of parents is stressed. Techniques for fostering social interaction are examined and an outline of the daily schedule is provided. The development, physical, mental, and social, of an 11-year-old girl, Dawn, is recounted. The author explaines that Dawn was 9 1/2 years old before she was placed correctly in a class for autistic children. Through the use of reinforcement, the author discusses the gradual establishment of rapport with the child. Correct speech is described as a primary goal and the techniques for developing good speech are examined. (PHR)

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Successful Techniques for Teaching Autistic Children

Detailed Overview of the Methods Used in a Specific Autistic Class and Longitudinal Case Study of One Autistic-Like Child

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I. Detailed Overview of the Methods Used in a Specific Autistic Class

The children in this class are those who are autistic and those who have autistic tendencies. They range in age (at the present time) from four through eleven years old. There are five boys in the class and five girls. The National Society for Autistic Children currently defines an autistic child as one who "has severe disorders of communication and behavior, whose disability became manifest during the early developmental stages of childhood." He is "characterized by severe deficits in language ability and behavior, and by the inability to relate appropriately to others."

They also list several specific characteristics that are typical of autistic and autistic-like children. Some of these characteristics are:

1. Inconsistent response to sound
2. Poor eye contact
3. Resistance to any change; rigidity
4. Presence of stereotypic mannerisms such as hand-flapping, spinning of objects, etc.
5. Apparent aloofness (may not acknowledge another's presence; may not respond to calling)
6. Little or no appropriate playing behavior
7. Periods of extreme distress for no apparent reason
8. Insensitivity to pain
9. Severely impaired or complete lack of speech.

Of course not every autistic or austistic-like child exhibits all of these characteristics. However, every child in this class displays some of these characteristics. There

are three main deficit areas which provide the pivotal points on which our whole instructional program is based. Every child who is placed in this program has severe problems with both receptive and expressive language, behavior, and social interaction. This program, therefore, emphasizes specific techniques which are effective in teaching basic communication skills, the internalization of behavior control (self-dsicipline), and appropriate social interaction. The underlying structure for the whole program is contingency management as I have adapted it for maximum results with these children.

When a new child enters the class, he has severe difficulty with following any directions and maintaining appropriate behavior even briefly. He also has serious difficulty communicating (usually he is mute) and in responding appropriately to any social situations. The staff's major task, in his first several weeks in the class, is to teach the child behavior control from a consistent external source (internalization comes later as a gradual outgrowth of the external control). Without the skills to follow simple directions and to display even marginal cooperation, the child cannot learn other vital skills. Until the child is able to respond consistently to, at least, external control then he cannot sufficiently concentrate on new tasks and he does not learn.

When a child is placed in this class, he is immediately started on a program of primary reinforcers (any food or drink which the child particularly likes) always paired with secondary reinforcers (touching, such as patting and hugging, as well as verbal praise). His reinforcement schedule is very heavy. Typically, he receives the primary/secondary reinforcers for

every exhibition of appropriate behavior or correct response to a task. Children who come from other similar programs in other school systems are placed on a more stringent reinforcement schedule. They are normally more responsive than children who have had no training, therefore, their ratio of reinforcement to correct response usually begins at three to one.

The child's initial tasks include following the single commands "look at me," "come here," "sit down," and "give it to me." He also begins large shape and color matching and object identification by selection from a group of no more than three objects. Inappropriate behavior (crying, failure to sit in his seat appropriately during a brief task session, etc.) is ignored. Self-destructive behaviors (hand-biting, headbanging, etc.) or behaviors which are destructive toward others (scratching, biting, choking, etc.) are followed by an immediate arm restraint with simple time-out. The child is held until he is still and quiet for at least fifteen seconds. He is told "no biting" or "no banging," for example, at the beginning of every arm restraint.

During his first week in class, the child is observed very closely. The teacher isolates two or three inappropriate behaviors which are predominant in the behavior repertoire of the child. Baseline data is taken on each of these isolated behaviors for at least three days. At the end of the baseline data period, the teacher meets with the staff and assigns a specific behavioral intervention to each behavior. Each intervention, of course, must be carried out every time that particular behavior occurs. The teacher selects the interventions

which she developed. The hierarchy of interventions are:

1) Simple time-out (turning head away)
2) Time-out with isolation at own desk
3) Isolation at own desk surrounded by a folding screen
4) Isolation behind folding screen at far point in room
5) Arm restraint
6) Arm restraint with isolation behind folding screen at far point in room
7) Tantrum hold

All behaviors which are imcompatible with the targeted behaviors are reinforced with primary/secondary reinforcers. Data is taken on each isolated behavior to determine the effectiveness of the intervention. Each episode of the targeted behavior is recorded as a slash mark on a tally sheet. Some behaviors are tallied for one or two hours per day, and others are recorded for the whole school day. The tallies are kept on a target behavior graph and the totals of the episodes of each targeted behavior are compiled by the staff at the end of each school day. The total number of episodes is then transferred to a simple behavioral graph. Thus it becomes easy to determine quickly and objectively if the isolated inappropriate behavior is decreasing as a result of the assigned intervention. If the graph shows a steady, if gradual, decline, then the intervention is effective. If the graph shows no decline or very inconsistent results, then the teacher must assign a different intervention to that targeted behavior. If the graph shows at least three weeks of zero episodes daily, then the behavior is considered eliminated.

Generally, the teacher saves the most severe interventions for those targeted behaviors which do not respond to the less stringent interventions on the hierarchy. A condensed graph in which weekly averages of the number of daily episodes of the behavior are recorded gives an accurate overview of the effectiveness of the intervention especially when the behavior is decreasing very gradually.

The individual task program for the new child is developed by the teacher in accordance with the information gained from a careful analysis of that child's present level of functioning. Heavy emphasis in the task program is placed upon teaching communication skills. The methods for building both receptive and expressive language will be discussed later in this work. Other than language development, the task program concentrates upon building pre-academic cognitive skills, cognitive tasks dealing with visual discrimination, auditory discrimination, pre-writing skills, numeration, and other such skills are programmed by the teacher. Several of the more important pre-academic tasks for that child are presented to the staff in written form on program planning sheets. The child and assigned technician work on those tasks daily as well as the other tasks which the teacher has programmed. The skills taught from the program planning sheets are continued (though the ratio of reinforcers to correct responses may be changed) until they are mastered. The child's rate of progress while mastering these skills is objectively recorded on specific task data sheets. The number of correct responses at each session are recorded.

The key can include symbols for prompted responses, partially prompted responses and those which are entirely independent. Notes can also be made whenever the reinforcement schedule is changed. The primary reinforcers are gradually faded and replaced entirely by secondary reinforcement. A specific skill is considered mastered if two consecutive weeks of all correct responses are achieved.

It is within this overall contingency management structure that language is taught. The same basic techniques that are used to teach behavioral and cognitive skills are also relied upon to promote the mastery of communication. The first step in teaching language skills to a mute child with autistic tendencies is to build his attending skills and his receptive vocabulary. As mentioned earlier, one of his first tasks is to learn to respond appropriately to the command "look at me," This is the important basic response on which almost all of his learning, especially language, is based. When he begins to respond consistently to the request "look at me," and when he is able to maintain his gaze for at least three seconds, then a few simple tasks which require verbal directions are programmed for him. It is at this stage that he learns "give it to me," when asked for one object out of two possible choices. The choices are gradually increased, then large pictures are substituted for the objects. At the same time, he is learning to respond to simple verbal commands by first being physically prompted while the command is being given. The prompts are systematically faded until the child is responding to the verbal command only with no visual or physical cues.

When the "look at me" response is consistent, it is also time to begin teaching the child to speak. This expressive vocabulary program begins with simple gross motor movement imitation. A normal child learns speech through imitation. An infant babbles and his attentive mother babbles at him in return. Later he consciously repeats the sounds which he hears from himself and from others. Soon he learns that by imitating simple words which his mother says, he quickly gains her positive attention and/or gets something that he wants. The frequency and accuracy of his imitations increase and soon speech is his primary mode of communication. He relies less and less upon crying or gestures.

Most autistic children do not know how to imitate. They cannot even clap their hands or touch their heads, for example, when told "do this" and shown how. The lack of this basic imitative ability is central to their lack of language development. Therefore, the first step in teaching an autistic child expressive language is to teach him to imitate. Learning to copy gross motor movements comprises the beginning of his language program. Such movements as standing up, clapping his hands, patting his head, and so forth, are presented one at a time and prompted. He is then reinforced for imitating on the command "do this" even though he may have been completely prompted. These imitative tasks are programmed in the same that his cognitive tasks are programmed. The prompt is gradually faded until the child is imitating each movement independently. When he has mastered at least eight gross motor imitations, he begins to learn

to imitate fine motor movement. When he is consistently and accurately imitating a variety of fine motor movements (at least eight), then he begins learning to imitate various mouth shapes. Because no sound is expected, and because the mouth shapes are similar to some learned fine motor imitations, this phase of the child's expressive language program usually moves quickly. As he is rapidly mastering the imitation of various mouth shapes, occasional spontaneous vocalizations may be heard. The child is heavily reinforced (primary and secondary) every time that any vocalization (other than crying) emerges. These spontaneous vocalizations may occur at any time and they should always be reinforced.

The next phase of the child's expressive language program is a very important one. The timing of this next step is crucial. It is now that, for the first time, the technician requests the child to make a sound. It is usually a simple vowel sound like "ah" or "uh" which is little more than a grunt. Any approximation is rewarded. Gradually the technician raises his expectations so that only close approximations of the sound are accepted and finally until only an accurate reproduction of the sound is rewarded. Slowly other simple vowel sounds are added, then some beginning consonant sounds, and finally some easy single consonant/vowel combinations are presented. The timing of this phase of the child's program is so important because many of these children are quite resistant to sound imitation. Before the technician requires such a response from the child, he must have established a rapport with him. The technician must be receiving a consistent pattern of positive responses from the child in all phases of his program.

When the child is reliably and accurately imitating several

consonant/vowel combinations, he is introduced to simple, single words. He is shown a very familiar object (usually one from his cognitive task sessions) and asked to "say ...." Since the child has been consistently repeating nonsense syllables, on command from his technician, he usually makes an approximation of the required word on the first attempt. All approximations are rewarded. As with the nonsense syllables, the ratio of reinforcement to correct response is gradually decreased and only close approximations are accepted. Finally, only an accurate reproduction of the word is accepted. No more than four single words are taught at the same time after the first word is learned.

When the child is able to generalize his silent object identification (by selection) to pictures, then pictoral representations of objects may also be used to teach speech.

It is during this phase of his language program (naming imitation) that another very important step is introduced. After the child is accurately repeating the names of several objects, he is asked, for the first time, to independently label the object. The technician holds the object (or picture) in front of the child and asks "what is this?" If the child responds with the correct word, then he is immediately and enthusiastically reinforced. If he does not say the correct word within five seconds, then he is prompted. The prompting process is gradually faded until the technician may only be forming the beginning consonant with no sound and the child takes his cue from that. Finally, the child independently says the correct word in response to the question "What is this?" with no prompting from his technician. Sometimes when a child is introduced to labeling he simply repeats "this"

in echolalic fashion when asked the introductory question. This response is immediately timed-out in a simple time-out lasting five seconds. The technician then returns his attention to the child and asks the same question but immediately supplies the answer. The child repeats the answer. The prompted answer is gradually faded until the child is independently supplying the correct label. Any incorrect responses are immediately timed-out.

When the child is able to correctly and consistently label at least six objects or pictures, then his language program gains a new dimension. Now his speech must become functional. He is taught the word "lunch," for example, as a label for his lunch tray in the cafeteria. He is taught this label with the same procedures that have been successful in teaching him other labels. When he is proficient in saying "lunch" in response to the question "what is this?" the question changes. Now he is asked "What do you want?". The child, of course, must respond "lunch." If he does not respond appropriately, he is prompted for a few days. After three to five days of prompting, the child must answer with at least an approximation of the word "lunch" before he receives it. If he does not respond at all, his lunch is put back onto the tray cart and the child does not eat. He is not asked to say the word again until he sees his lunch tray on the following day. The same procedure is used to teach any functional word. When the child begins saying the word consistently, the object of desire is withheld until his articulation of the word is the best that he is capable of producing. Lazy articulation and gross approximations of the word are not accepted.

When the child is spontaneously and freely using single words to have several of his needs or desires met, then the programming of sentences begins. Since food (lunch) and drink are probably the most rewarding aspects of the child's environment, the sentences begin with these highly motivational needs. Using the same prompt, fade prompt procedure that is inherent in all the language work, the child is taught to say "I want...." before he labels the object of his desire. Now he must say, for example, "I want lunch" before he is granted the request. He also learns to label during his cognitive task sessions using a sentence. Now when he is asked "what is this?" he must say "that is a ..." or "those are...": This is accomplished through backward chaining. He learns first to say "a ball," then "is a ball," etc. Other types of sentences are added when the child is consistently using these sentence structures.

It is very important to have the child's parents involved in his language training program. They must be informed technicians themselves who fully understand the proper techniques for building both receptive and expressive language. If, for example, the child must say "I want water" at school before he is allowed a drink, then he must make the same verbal request at home before he receives a drink. It must be made clear to the child that certain needs and desires will be met only through verbal expression.

It is important to note that some autistic children do not ever use speech. Though taken through the same procedural steps as the other children, they never progress beyond, at most, imitiation of single words (no independent labeling). It is frequently successful with these children to institute a program

of sign language such as that taught to deaf children who are being trained manually. The autistic children who do not respond to auditory cues often do begin to make visual language associations through signs. They learn to spontaneously make the sign for "eat" at the lunch table whereas they are not able to spontaneously verbalize the same word. The procedures for teaching signing are the same as for teaching verbal language. The spoken word is always used in conjunction with the sign. Sometimes the previously non-verbal child begins to speak with the signing cues. For some reason, the visual help he receives through the signs enables him to begin to make verbal associations which had heretofore been impossible for him. At the present time, signing is being used regularly with two of the children in this class.

The third main deficit area for these children (besides severe behavioral and communication problems) concerns social interaction. Most new children enter this class with varying degrees of withdrawal. Some of the children even show an obvious aversion to being touched. They do not seek any interaction with other people. If social involvement in a situation is forced, it is, at best, only tolerated. Appropriate interaction with some degree of social responsiveness is taught gradually. From the child's first day in the class, he receives food or drink that he likes (when he is appropriate) <u>always paired</u> with social (secondary) reinforcement. Slowly the child associates pleasure (eating a favorite food) with being touched, talked to, and hugged. When the child is making at least brief eye contact and is tolerant of being touched, then he is introduced to physical, friendly play with an adult.

At certain times of the day he is held, chased, tickled, and even carried by the adult. When he becomes responsive to this interaction and occasionally initiates it, then forced peer play is begun. The child continues to play physically with the adult, but he is now also taught to chase his peers, run with them, slide with them, and climb with them. This method of forced physical play is successful in increasing the child's overall social responsiveness. During the entire school day, any opportunity to build rapport with the child is capitalized. He is talked to, praised, and hugged. Whenever he initiates interaction by touch, sign, speech, or even by standing near a technician, he is immediately rewarded and encouraged. His spontaneous interaction episodes increase as he becomes more and more responsive.

It is very important to mention the role of the parents in their children's entire training program. Each parent must be taught the specific techniques which are effective in dealing with his child. He must become proficient in the use of these techniques. Without parental cooperation, the child's progress is slower at school and his behavior at home may change very little. The following outline explains the basic structure of the parent involvement program for this class:

1. Two initial group meetings - basic training review.
2. Folder for each parent - information on behavior modification and home management.
3. Parent-teacher observation log interchanged every Friday and Monday.
4. Data taken at school (acceleration and deceleration) -

discussed regularly with parents.

5. Data (on single behaviors at a time only) taken at home, (stronger interventions at first - success experiences)
6. Regular individual observation/working sessions in the classroom. Home and school data discussed at this time. Working sessions are weekly or bi-monthly at first and later may be scheduled monthly.
7. Monthly group meetings (held at night) - topics of interest are discussed. Resource speakers, special training programs, etc. are utilized.

The school day for these children is highly structured. Their day begins at 7:30 a.m., and ends at 1:20 p.m. The daily routine does not vary and the children learn to feel secure within the structure. The daily schedule for this class is outlined below:

Jan G. Hodgson

Autistic-Like Clas

Daily Schedule

Pupil/Teacher Ratio		
	7:30 - 7:45	Bus arrives; Hang up coats, Help technician set out own materials for first session; Wash hands for breakfast
	7:45 - 8:15	Breakfast in cafeteria
(1:1)	8:15 - 9:15	(1) Speech Imitation (2) Specific receptive vocabulary training (Picture and Object identification) (3) Language stimulation (reading and sentence structure if applicable) (4) Fine motor training

	9:15 - 9:30	Coordination Exercises (gross motor)
	9:30 - 10:00	Morning circle (small group) (1) Socialization Skills (2) Attending and Responding in a group (3) Language stimulation
	10:00 - 10:35	(Token exchange period) Cooperative play shaping Individual play shaping
(1:1)	10:35 - 11:15	(1) Academic training (if applicable) number concepts; numberal identification; simple number combinations; tracing, copying, writing. (2) Alternative Session (non-academic) 1. Following directions: (a) Stationary (b) Movement in room 2. Object/picture identification, categorization, generalization 3. Visual discrimination (sorting, matching, etc.) 4. Auditory Discrimination
	11:15 - 11:20	Wash hands; prepare for lunch
	11:20 - 11:40	Lunch in Cafeteria
	11:40 - 12:15	Rest
	12:15 - 12:30	(Monday, Wednesday, Friday) Art Activities fine motor skills, following directions; attending in a group (Tuesday, Thursday) Music Activities (auditory training) March to music; musical chairs; clap to prescribed rhythm, etc.
	12:30 - 12:45	Group games (Participation in small group; following direction; cooperation with peers)
(1:1)	12:45 - 1:05	Self-help skills

	1:05 - 1:20	(Token exchange period) i dividual play in room; preparation to leave
(1:1)	1:20 -	Leave on Special Bus

II.

DAWN
Longitudinal Case Study of an Autistic-Like Child

Dawn is an eleven year old girl with autistic tendencies, most of which center around her deficits in the area of communication. She is a short, stocky child with wavy, blonde hair and big green eyes. She is socially responsive and frequently approaches strangers with a bright "hi" and outstretched arms. Though her articulation is poor, she has built a spontaneous vocabulary of approximately forty-five words. She would not speak when she entered this program one and one-half years ago.

Dawn was born on January 3, 1968. She was the product of a normal gestation and delivery and weighed six pounds at birth. She had no siblings. Her first six months were marked by several colds and long periods of nasal congestion but this cleared up by mid-summer in her first year. All aspects of her physical development were delayed. She was late sitting up and did not walk until she was almost nineteen months old. When she was learning to walk, she would become very frustrated when she lost her balance. She would cry loudly and often she tantrumed.

Dawn began to speak soon after her second birthday. She said a few single words such as "mama", "bye", and "baby". She would willingly approximate words which were said to her, though she did not necessarily make them a part of her spontaneous vocabulary. Between the ages of two and four years her speech gradually stopped. She began refusing to imitate words and spoke only occasionally. During this time her mother noticed that she began displaying an inconsistent response to sound. Sometimes she would turn when there was a loud noise (or when she was called) and sometimes she seemed not to notice it.

When Dawn was four years old, she was taken to a local ear, nose, and throat specialist. He had facilities for testing hearing, but he pronounced Dawn untestable. She understood very few directions and cried and pulled away when the doctor attempted to gain her compliance. He recommended that she be taken to Bill Wilkerson Speech and Hearing Center in Nashville, Tennessee. Her mother followed his suggestion. The center reported that, though she was very difficult to test, they felt her hearing was slightly below normal. Her mother took her back to the ear, nose and throat specialist. He put tubes in her ears to insure proper drainage and removed her adenoids and tonsils. The child's hearing did seem improved (her response to sound was more consistent), but she still did not speak. At the age of five and one-half years she entered public school kindergarten in a rural area. The teacher experienced a great deal of difficulty in dealing with Dawn. The child tantrumed, could not (or would not) follow directions, did not interact at all with her peers, and was unable to participate in any of the normal academic readiness activities. Despite these problems, she remained in that class throughout the school year and returned to the same class for the following September. At that time a hearing specialist was hired by the local public school system. Dawn was part of his case load because of her lack of language even though she now had no apparent hearing loss. He worked individually with her for an hour per session two days per week. She mastered a few single visual discrimination activities (matching and sorting) but she did not speak or even imitate any sounds.

Soon after Dawn's seventh birthday, her family moved to Illinois. Her only sibling, a brother, was born just before the move. Dawn appeared to adjust to the new baby very well. She seemed to enjoy "mothering" him.

Dawn entered kindergarten in Illinois late that winter. She was very oppositional in class and by that spring the psychological services department of the school system began evaluating Dawn. Their report was inconclusive because of Dawn's extreme lack of cooperativeness. However, they did recommend that she be placed in the Muhl Center, a local special school for various delayed children. The center used behavior modification techniques with the children. Dawn entered the center in September, 1975 at the age of seven and one-half years. She stayed there until the following April when her family returned to Tennessee. Dawn did respond to the behavior modification techniques at the center. She became more cooperative and learned some simple manipulative tasks. However, she still refused to imitate sound.

In April when Dawn returned with her family to Tennessee, she remained at home and did not enter school. The following September her mother enrolled her in first grade, but asked that the school system determine special placement for her. She was evaluated and placed in a class for deaf and hard-of-hearing children. She was placed there because of her lack of language development. Dawn did not respond well to the program there. She made many deliberate refusals, tantrumed occassionally, and did not imitate either sounds or manual signs. At one point all food and drink was withheld at school until Dawn make the simple sign for "eat". For days she continued to refuse and the withholding program was finally discontinued since it was not forcing her cooperation. In May, 1977

Dawn's teacher requested that the school system's psychological services department re-evaluate Dawn and consider alternative placement for her. Dawn was re-evaluated and the psychologist recommended that she be placed in the autistic-like class. Her recommendation was based on the fact that Dawn did display some autistic characteristics and no other placement had been successful with her.

Dawn entered the autistic-like program in September, 1977. She was nine and one-half years old. Though she understood most simple directions, she did not necessarily comply when a request was made. She responded appropriately to affection and frequently sought physical interaction with favorite adults in the classroom. She refused to imitate any sound or word. If asked to do so, she would walk away, or turn her head away. If the adult making the request indicated in any way that she might try to force Dawn's compliance, she would cry loudly and pull away. She did have some skills with manipulative readiness activities (matching shapes, puzzles, color matching, etc.) and usually was willing to perform such tasks if they were well within her instructional level and did not present a real challenge. More challenging work was pushed away.

Dawn was immediately started on a heavy reinforcement schedule. Primary reinforcers were tried, but Dawn was indifferent to them. Instead, she was hugged, patted, and praised for almost every correct response during a task session even though most of her tasks were already well within her capability. The teacher made a particular effort to play physically with Dawn during free periods. Dawn loved this and gradually began to establish rapport with her teacher. The teacher slowly introduced more challenging tasks

during Dawn's work sessions. Dawn was prompted through the task until she felt comfortable with it, then she performed it independently. She was praised for completing it whether or not she was prompted. Dawn's willingness to work on more challenging tasks increased. At this time the teacher began heavily praising Dawn every time she uttered any spontaneous sound other than crying. She was hugged and told "Good talking". However, if she creid, her mouth was immediately covered with a cloth and she was told "You have to be quiet". At this time, too, isolation at a three-sided carrel was introduced. Dawn was left there alone for five minutes if she deliberately refused to comply with any request that was within her capability. The teacher began motor imitation sessions with Dawn which included some simple mouth shapes. However, she was not asked to reproduce any sound. Spontaneous vocalization, of course, continued to be reinforced, but she was never asked to repeat any of them. If such a request had been made, and Dawn had refused, then isolation would have to follow and the tremendous negativism which Dawn had developed concerning speech would have continued.

Dawn responded very well to the structure of the class and to her teacher. She became much more cooperative. She accepted new tasks willingly, followed simple directions easily, and ceased all crying and tantrums. Her receptive vocabulary improved, largely through learning the names of items pictured on large stimulus cards. She would select the proper item when told "Give me the....." She had no apparent difficulty in generalizing her knowledge of these pictured items to real objects in her environment.

When Dawn had been in the program approximately two and one-half months, her teacher decided that she was ready to begin speech sound imitation. Dawn had established very good rapport with her teacher by this time and was generally relaxed and cooperative.

Her teacher began by asking Dawn to repeat the short o vowel sound in conjunction with the open mouth shape which Dawn had already been imitating. Dawn complied and gave a soft approximation of the sound. She was lavishly praised and hugged for "Good talking". When the imitation of this sound was firmly established (after a few days), new vowel sounds were added. Spontaneous vocalizations, of course, continued to be reinforced with praise and touch. Dawn began to vocalize much more frequently and appeared to be much more relaxed at her speech sound imitation sessions. Her imitation of vowel sounds progressed to initial consonant imitations and finally to single syllable words. Her first words were ones which labeled some of her favorite stimulus cards and also ones which related to needs in her immediate environment ("lunch"). At first any approximation of the sound or word was accepted, but gradually the teacher began demanding closer and closer approximations. At this time a speech mirror was introduced to help Dawn improve her mouth shapes. It became apparent that Dawn's articulation was often faulty even though she made an obviously sincere effort to imitate correctly. The teacher would briefly time-out incorrect or poor responses. After three successive time-outs, if the response was no better, the teacher would move on to the next sound or word with no comment.

After weeks of daily work on a particularly difficult sound, Dawn would pronounce it correctly and would be lavishly praised. She rarely "forgot" a correct pronunciation once she had learned it. When Dawn was unsure of her articulation of a particular sound or word, she would say it very softly with her mouth tense and half-closed. The teacher timed-out such responses.

After three months of speech sessions at school, Dawn began to imitate some words at home. This was the first time (since babyhood) that Dawn had spoken upon request. Her parents had her imitate words daily. They were positive with her and enthusiastically encouraged her spontaneous speech. After working with the teacher, they understood that Dawn had difficulty making accurate imitations and they were patient in their expectations.

By May, 1978 Dawn spontaneously used a vocabulary of approximately twenty-five words. She imitated most single syllable words and some two-syllable words. She accurately reproduced all the vowel sounds and half of the consonant sounds. During the summer months, Dawn did not go to school though her parents continued to work with her at home. Fortunately, though her vocabulary did not increase, she maintained all of the progress that she had made.

During the present school year, Dawn has increased her spontaneous vocabulary to about forty-five words. She imitates most consonant sounds in isolation, but no blends. She still has some difficulty combining some of the consonants and vowels into particular words, but her articulation is improved. She has begun work on three and four word sentences. Backward chaining is used to teach the sentences. She is learning two identification

sentences ("that is a ...." and "those are ....") and also learning the "I want...." sentence. In the backward chaining process, the child is asked to repeat the name of an object with the article "a" in front of the name (for example, "a ball"). When using the "I want...." sentence, she is first taught to say the word "want" in front of the desired object (for example, "want lunch"). The object is withheld until she uses both words (prompted at first). When Dawn became accustomed to using two words, then a third was added, making her identification sentence for a ball, for example, "...is a ball". This chaining has been successful with Dawn. She is now making complete three and four word sentences with prompting only on the first word.

Dawn's progress since her entry into the autistic-like program has been good. She has changed from a child who had virtually no expressive language to a child who can verbally communicate most of her simple needs and desires. She is now responsive, cooperative, and alert. She listens well and has added to her receptive vocabulary considerably. She is learning to write and recognize her full name, trace letters and numbers, identify colors, etc. Her academic progress, however, is slow. Dawn will continue in the program until her expressive vocabulary is much larger and her articulation is improved.